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ABSTRACT

A study which replicated previous research focused on the perceived affiliative communication behaviors of teachers within the classroom, their relationship to student learning, and the interrelationship among those behaviors. Six hypotheses were formulated based on already published literature. These hypotheses suggest that student perceptions of teacher nonverbal immediacy behaviors, teacher responsiveness, and teacher verbal receptivity are positively associated with affective learning and with cognitive learning. The study also aspired to examine the interrelationship among the above teacher behaviors. A seventh and eighth hypothesis were formulated toward this end: nonverbal immediacy is positively correlated with responsiveness; and nonverbal immediacy is positively correlated with verbal receptivity. Along these same lines, two research questions were posed: first, to what extent are nonverbal immediacy, responsiveness, and verbal receptivity collinear predictors of learning? and second, are nonverbal immediacy, responsiveness, and verbal receptivity components of a single construct? Subjects were 531 undergraduates in basic communication courses at a large Eastern university. All hypotheses were shown to be true, thus, providing additional support for previous research findings. Findings further showed that, in answer to research question 1, the degree of collinearity among the three factors was substantial; and that, in answer to research question 2, nonverbal immediacy, responsiveness, and verbal receptivity were highly intercorrelated. (Contains 5 tables of data and 36 references.) (TB)

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Affiliative Communication Behaviors:

A Comparative Analysis Of The Interrelationships Among Teacher Nonverbal Immediacy, Responsiveness, And Verbal Receptivity On The Prediction Of Student Learning

Rena Y. Robinson

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On The Prediction Of Student Learning

Abstract

In recent years instructional communication scholars have been exploring the impact of teacher communication behaviors on students' learning outcomes. The purpose of this research was twofold: to replicate previously found relationships of nonverbal immediacy, responsiveness, and verbal receptivity with student affective and cognitive learning and to investigate the interrelationships among these constructs.

The previous research was successfully replicated. Additionally, the present findings suggest that these behavioral constructs are highly interrelated. A second-order factor structure was proposed and supported among the constructs. Based upon this second-order factor, Affiliative Communication Behaviors (ACB) is discussed as a construct which incorporates all of these interrelated behaviors.

Key Words: Immediacy, Responsiveness, Verbal Receptivity, and Affiliative Communication Behaviors

In looking at communication within the instructional environment, it is important to consider the effects of the teacher's communication behaviors. There are a number of teacher communication behaviors that may influence the communication process within the classroom. One such set of communication behaviors is affiliative communication behaviors.

The present study focused upon the perceived affiliative communication behaviors of teachers within the classroom, their relationship to student learning, and the interrelationships among those behaviors. The communication behaviors considered affiliative in the current study were nonverbal immediacy behaviors, responsiveness behaviors, and verbal receptivity behaviors.

Literature Review

Nonverbal Immediacy

Immediacy's role in the classroom has received a substantial amount of attention in recent years. This research has considered the implications of immediacy in both the classroom and the general educational environment.

The conceptualization of immediacy was based upon Mehrabian's (1971) principle of immediacy. He suggested that people tend to be drawn toward people that they have positive perceptions of, or like, and tend to avoid people that they have negative perceptions of, or dislike. This principle of approach and avoidance based has provided the basis for the immediacy construct as used in communication research.

Richmond (1992) defines immediacy as "the degree of perceived physical or psychological distance between people in a relationship" (p. 196). Essentially, this suggests that a student-teacher interaction will be more immediate in interactions in which the student and teacher see each other

as close, or approachable, as opposed to interactions in which the student and teacher see each other as farther apart, or unapproachable.

Generally, immediacy has been split into two types. Verbal immediacy refers to the verbal messages that affect or reflect the perceived distance between two people. Nonverbal immediacy refers to the nonverbal messages that affect or reflect this perceived distance.

The role of immediacy in the classroom has been examined in different ways. Early investigation into the impact of immediacy in the classroom suggested that perceptions of nonverbal immediacy were strongly correlated to student attitudes (Andersen, 1979; Andersen, Norton, & Nussbaum, 1981; Andersen & Winthrow, 1981). Other research showed the effects of immediacy on recall. Kelley and Gorham (1988) found that teacher nonverbal immediacy accounted for approximately 20 percent of variance in recall by students. These findings suggested that nonverbal immediacy has a significant impact on recall, a major component of learning.

The relationship of immediacy to elements of learning other than recall has also been shown by previous research. Plax, Kearney, McCroskey, and Richmond (1986) looked at nonverbal immediacy in terms of Behavior Alteration Techniques (BAT's) and affective learning. They reported that there was indeed a positive correlation between immediacy and Behavior Alteration Techniques used by teachers in the classroom. Additional support for this relationship was found by Richmond (1990) when she determined that some nonverbal immediacy behaviors engaged in by teachers in the classroom were in fact serving as BAT's and affecting student motivation.

Richmond, Gorham, and McCroskey (1987) discussed the relationship between nonverbal immediacy and cognitive learning. They reported that immediacy behaviors were correlated with

cognitive learning. Gorham (1988) and Gorham and Zakahi (1990) also reported findings that support existence of a relationship between immediacy and learning. Sanders and Wiseman (1990) reported a positive relationship between immediacy and a variety of learning scales.

Hackman and Walker (1990) reported that immediacy had a significant impact on student learning and satisfaction. Additionally, motivation and learning have been found to be correlated with immediacy (Christophel, 1990; Richmond, 1990; Powell & Harville, 1990).

Responsiveness

In analyzing what makes a teacher more or less effective, communicator style has been noted as a critical part of the learning process (Sallinen-Kuparinen, 1992). Norton (1978) conceptualized communicator style as how verbal and nonverbal messages influence how meanings are interpreted or understood. In this way, the teacher's communicative messages could influence the student's interpretation and understanding and directly affect the student's learning.

The effects of teacher style were initially researched by Norton (1977). He suggested the communication style construct as a way to compare effective and ineffective teachers. Further, Norton (1977) suggested that communicator style could also be used to predict teacher effectiveness.

Social style has generally referred to an individual's tendency to react, associate, and adapt to another individual in communication situations (Richmond & McCroskey, 1992). Two dimensions of social style behaviors have been suggested by previous research: assertiveness and responsiveness (Merrill & Reid, 1881; Newton, 1986).

Generally "assertive" individuals have been described as able to defend her or his position on a topic or an issue confidently (Wheeless, Frymier, & Thompson, 1992). The highly assertive

individual has generally been described as more active, competitive, strong willed, and apt to initiate or terminate a conversation. The assertive individual has been found to be more task-oriented and focused on the pursuit of excellence in the educational environment.

The warmth, compassion, and friendliness expressed by an individual have generally been referred to as responsiveness. Responsive individuals have been found to be more relationship oriented (Bolton, 1979; Wheeless & Lashbrook, 1987). The responsive teacher has generally been characterized by students as sensitive, social, and understanding (Kearney, 1984).

It was the social style variable of responsiveness that was focused upon in the present study. Kearney and McCroskey (1980) suggested that teacher responsiveness was associated with fewer reports of apprehension about communicating in the class and served to improve perceptions of teacher effectiveness.

Harper and Hughey (1986) also have reported research that appeared to suggest that student and teacher responsiveness have potential implications for improved instruction and learning. While they did not report a significant effect for teacher responsiveness on student learning, their results would appear to suggest that such a relationship may have existed.

Verbal Receptivity

A relatively recently advanced communication construct, which appeared to be related to responsiveness, has been identified as verbal receptivity (Wheeless, Frymier, & Thompson, 1992). Verbal receptivity has focused on the perceptions the receiver holds of the communicator's receptivity behaviors in interpersonal interaction.

Only recently has verbal receptivity been advanced in communication research. In fact, it was not until recently that Wheeless et al. (1992) advanced their measure of verbal receptivity that appeared to be useful in measuring this construct. Their initial research with this measure provided the rationale for further studies.

According to Wheeless et al. (1992) verbal receptivity was reported to be correlated with attraction and communication satisfaction. While the conceptualization of verbal receptivity discussed by Wheeless et al. (1992) acknowledged that there were some similarities between verbal receptivity and responsiveness, they did not explore the actual relationship between the measures of these constructs.

Robinson (1993) focused specifically on the effects of a teacher's verbal receptivity on students' perceptions of their own learning in the classroom. This research reported a significant positive correlation between the student's perceptions of the teacher's verbal receptivity and student learning.

Learning

Student learning has been one method used extensively to judge teacher effectiveness. Learning has been defined as a process that involves either acquisition or modification of cognitive, affective, and/or psychomotor outcomes (Bloom, 1976). The two primary types of learning which have been focused upon in communication research were affective and cognitive.

Affective learning has focused on the likes, dislikes, attitudes, values, and beliefs of the student (Richmond & Gorham, 1992). Christophel (1990) discussed affective learning as the degree of positive or negative attitudes toward the subject or teacher. Richmond and Gorham (1992)

discussed affective learning in terms of a continuum. At one extreme of the continuum was awareness of the subject. At this end of the continuum, there was little or no internalization of the subject. The other end of the continuum involved maximal internalization of the subject. At this extreme, the student has incorporated the subject, or learning, into many aspects of her or his life.

Cognitive learning has focused on the comprehension and retention of knowledge (Christophel, 1990). Cognitive learning has generally been split into six areas: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). Essentially cognitive learning has been considered to involve the recall and recognition of knowledge in addition to the development of intellectual abilities and skills (Richmond & Gorham, 1992).

Affective and cognitive learning have generally been considered to be closely related (Bloom, Hastings, & Madaus, 1971). In fact, Bloom et al. suggested that these domains cannot be easily separated due to the relationship between them.

Rationale

In looking at what behaviors make a teacher more effective, it appeared that a teacher's use of nonverbal immediacy behaviors as well as communication behaviors associated with responsiveness and verbal receptivity has a substantial impact student learning. The following hypotheses were justified by the literature reviewed above:

H1: Student perceptions of teacher nonverbal immediacy behaviors are positively associated with affective learning.

H2: Student perceptions of teacher nonverbal immediacy behaviors are positively associated with cognitive learning.

H3: Student perceptions of teacher responsiveness are positively associated with affective learning.

H4: Student perceptions of teacher responsiveness are positively associated with cognitive learning.

H5: Student perceptions of teacher verbal receptivity behaviors are positively associated with affective learning.

H6: Student perceptions of teacher verbal receptivity behaviors are positively associated with cognitive learning.

In looking at these different factors that appeared to predict and/or influence student learning, another question was raised: What are the relationships among these predictor variables? It would appear that there was substantial similarity among the behaviors associated with each of these predictors.

Robinson (1993) reported that responsiveness and verbal receptivity were strongly correlated with each other. Significant overlap in the variance in student learning accounted for by instructor responsiveness and verbal receptivity was noted in that study.

The behaviors associated with responsiveness would appear to have been closely related to nonverbal immediacy behaviors. The responsive individual was more relationship-oriented and likely to engage in behaviors that were similar to those associated with immediacy such as

acceptance of others' views, inclusion of others in decisions, and free discussion of topics. Thus, responsiveness was very similar to the behaviors included in immediacy.

In looking at nonverbal immediacy, responsiveness, and verbal receptivity, the degree of relationship among these constructs had not been examined. It seemed that the degree of similarity and overlap in the constructs needed to be explored to find the extent of each construct's unique contribution to a teacher's effectiveness.

The following hypotheses and research question served to guide this line of inquiry:

H7: Nonverbal immediacy is positively correlated with responsiveness.

H8: Nonverbal immediacy is positively correlated with verbal receptivity.

RQ1: To what extent are nonverbal immediacy, responsiveness, and verbal receptivity collinear predictors of learning?

Given the similarities among the measures of verbal immediacy, nonverbal immediacy, responsiveness, and verbal receptivity, it appeared that these constructs may be part of another, much larger, variable. To explore this possibility, the following research question was offered:

RQ2: Are nonverbal immediacy, responsiveness, and verbal receptivity components of a single construct?

Methodology

Participants

Five hundred and thirty-one undergraduates were recruited to serve as participants in the study (269 males and 262 females). All were enrolled in basic communications classes at a large eastern university.

All participants were informed that their participation was completely voluntary and that their course grade would not be affected in any way by their participation or decision not to participate in the study. Additionally, anonymity was guaranteed to all participants.

Measurement

Nonverbal immediacy was measured using the nonverbal immediacy measure developed by Richmond, Gorham, and McCroskey (1987). The nonverbal immediacy measure consists of fourteen items that were rated using a five-point Likert-type scale. Alpha reliability for the nonverbal immediacy scale was .81 in the present study.

Responsiveness of the participants was measured using the Richmond-McCroskey Assertiveness-Responsiveness Measure (Richmond & McCroskey, 1990). The Richmond-McCroskey scale is a self-report or other-report measure that evaluates social style. It consists of twenty items that are rated using a five-point Likert-type scale that is anchored with strongly agree and strongly disagree. Of the twenty items, only the ten responsiveness items were used within the present study although the assertiveness items were also included in the data collection and as a divergent variable in analysis. Alpha reliability for the responsiveness items was .85 in the present study while alpha reliability for assertiveness was found to be .92.

Verbal receptivity was measured with a modified version of the instrument developed by Wheeless et al. (1992) to measure perceived behavioral receptivity in interpersonal communication. The items have been rewritten (Robinson, 1993) so that "this person" is replaced with "this instructor" and "others" is replaced with "students." Responses are recorded using a seven point, Likert-

type response anchored with "strongly agree" and "strongly disagree." Alpha reliability for the verbal receptivity measure was also .92 in the present study.

Affective learning was measured using six components of the attitudes toward the course content and instructor[1]. Specifically, participants were asked to rate their attitude toward the course (alpha=.88), their attitude toward the instructor (alpha=.92), their attitude about the behaviors recommended in the course (alpha=.91), their likelihood of taking a similar course if the opportunity were available (alpha=.96), their likelihood of taking a course from the instructor if possible in the future (alpha=.96), and their likelihood of attempting to engage in the behaviors recommended in the course (alpha=.96). An overall reliability was also computed for the combined affective learning score (alpha=.97). Cognitive learning was measured using Richmond, Gorham, and McCroskey's (1987) technique that reports student perceptions of learning rather than using course grades or standardized tests. Cognitive learning was measured by using a pair of statements that ask participants to rate on a scale of zero to nine their actual learning in the course and how much they could have learned with the best possible instructor.

Procedures

Each participant was asked to complete each measure in terms of the teacher and course they had most recently attended before the class in which they completed the survey. This allowed for data from a wide range of University classes and teachers in a diverse group of subject areas and levels.

Surveys were administered in classes approximately seven to eight weeks into the semester so that participants would have adequate time for experience with the teacher and her/his patterns

of interaction. Also, by this point, the student should have been able to judge their own classroom progress.

Results

Hypotheses one through eight were replications of previous research findings that reported positive correlations between nonverbal immediacy and learning, responsiveness and learning, verbal receptivity and learning, nonverbal immediacy and responsiveness, and nonverbal immediacy and verbal receptivity. Significant positive correlations were noted for each of these relationships. Tables one and two provide a complete breakdown of the correlations between the variables.

Research question one inquired as to the extent of colinearity between nonverbal immediacy, responsiveness, and verbal receptivity. Analyses of the relationships among nonverbal immediacy, responsiveness, and verbal receptivity in terms of the six dimensions of affective learning, as well as the overall affective and cognitive learning scores, were conducted through decomposition of explained variance (Seibold & McPhee, 1979). Decomposition of the explained variances for each of the six affective learning variables is noted in Table 3 while the total affective learning, reported learning, and learning loss breakdowns are listed in Table 4.

The analysis that focused upon student attitudes toward the course showed that most of the 24% of variance accounted for by the model was the result of shared variance between two or more of the independent variables. Each of the three predictor variables contributed a small amount of unique variance to the total variance accounted for (nonverbal immediacy .02, responsiveness .02, and verbal receptivity .01).

The remaining 19% of variance accounted for was the result of variance common to two or more of the predictor variables. Nonverbal immediacy and verbal receptivity accounted for a shared .01 of the variance while the common variance between responsiveness and verbal receptivity accounted for .05. Nonverbal immediacy and responsiveness accounted for an additional .01 of the variance. The largest amount of variance explained was with the variance shared by nonverbal immediacy, responsiveness, and verbal receptivity (.09).

The analysis that looked at the results obtained regarding student attitudes toward the instructor showed that most of the 54% of variance accounted for by the model was again the result of shared variance between two or more of the independent variables rather than variance unique to the predictors. While a total of 12% of variance was explained by unique variance, the remaining 42% was the result of variance common to two or more of the predictors. Nonverbal immediacy (.02), responsiveness (.07), and verbal receptivity (.03) each uniquely accounted for some of the variance in student attitude toward the instructor.

Responsiveness and verbal receptivity accounted for a shared .13 of the variance. Nonverbal immediacy and responsiveness accounted for .01 of the variance while nonverbal immediacy and verbal receptivity accounted for .06 of the variance. Nonverbal immediacy, responsiveness, and verbal receptivity accounted for a shared .22 of the variance.

The analysis that looked at the variance accounted for in student attitudes toward the behaviors recommended in the course showed that most of the 28% of variance accounted for by the model was the result of shared variance between two or more of the independent variables rather than variance attributable uniquely to only one of the predictors. Only 8% of the explained variance

was found to be attributable to unique variance. Verbal receptivity (.04), responsiveness (.02), and nonverbal immediacy (.02) each contributed uniquely to the explained variance.

The remaining 20% of explained variance was the result of shared variance between two or more of the predictor variables. Responsiveness and verbal receptivity accounted for .05 of the variance while nonverbal immediacy and verbal receptivity accounted for .04. The variance common to nonverbal immediacy, responsiveness, and verbal receptivity totaled .11.

Analysis of the variance accounted for in student likelihood of taking a similar course showed that most of the 14% of variance accounted for by the model was the result of shared variance between two or more of the independent variables again. While nonverbal immediacy (.02) and verbal receptivity (.01) each contributed uniquely to the explained variance, the majority of the variance came from variance common to two or more of these predictor variables.

Common variance was noted between nonverbal immediacy and verbal receptivity (.03), nonverbal immediacy and responsiveness (.01), and responsiveness and verbal receptivity (.01). Additional common variance was found to be shared by nonverbal immediacy, responsiveness, and verbal receptivity (.06).

The analysis that examined the variance in student likelihood of taking another course with the instructor showed that most of the 44% of variance accounted for by the model was the result of shared variance between two or more of the independent variables. Nonverbal immediacy (.05), responsiveness (.03), and verbal receptivity (.03) each uniquely accounted for part of the explained variance.

The remaining 33% of the explained variance was a result of variance shared by two or more of the predictor variables. Common variance was noted between responsiveness and verbal receptivity (.06), nonverbal immediacy and verbal receptivity (.06), and nonverbal immediacy and responsiveness (.06). The remaining .19 of the common variance was noted among nonverbal immediacy, responsiveness, and verbal receptivity.

The analysis that considered the explained variance accounted for in student likelihood of engaging in behaviors recommended in the course showed that most of the 18% of variance accounted for by the model was the result of shared variance between two or more of the independent variables. Only nonverbal immediacy (.01) and responsiveness (.01) were found to uniquely account for any portion of the explained variance.

The remaining 16% of explained variance in likelihood of engaging in the behaviors was attributed to variance common to two or more of the predictor variables. Responsiveness and verbal receptivity (.05), nonverbal immediacy and responsiveness (.01), and nonverbal immediacy and verbal receptivity (.04) were found to account for shared variance. Additionally, nonverbal immediacy, responsiveness, and verbal receptivity accounted for the largest portion of the variance (.06).

The analysis that explored the variance accounted for in the student's total affective learning score showed that most of the 42% of variance accounted for by the model was the result of shared variance between two or more of the independent variables. Responsiveness (.04), nonverbal immediacy (.03), and verbal receptivity (.02) each were found to contribute uniquely to the overall explained variance in the total affective learning score.

The remaining 31% of the explained variance in total affective learning was due to variance common to two or more of the predictor variables. Responsiveness and verbal receptivity were found to have accounted for .16 of the explained variance while nonverbal immediacy and verbal receptivity accounted for an additional .06. Nonverbal immediacy and responsiveness accounted for .01 of the variance. Variance common to nonverbal immediacy, responsiveness, and verbal receptivity was .10.

Analysis of the relationship of nonverbal immediacy, responsiveness, and verbal receptivity with cognitive learning was accomplished via two sets of decompositional analyses of explained variance. The analysis that looked at the explained variance in the reported learning score showed that most of the 30% of variance accounted for by the model was the result of shared variance between two or more of the independent variables. Responsiveness (.04), nonverbal immediacy (.03), and verbal receptivity (.01) contributed a total of 8% of unique variance to the 30% of explained variance.

The remaining 22% of variance was found to be attributable to variance common to two or more of the predictor variables. Responsiveness and verbal receptivity were found to share .04 of common variance while nonverbal immediacy and verbal receptivity was found to share an additional .04 of common variance. Nonverbal immediacy, responsiveness, and verbal receptivity together contributed the largest portion of collinear variance (.14).

The analysis that considered the explained variance in the reported learning loss score showed that most of the 37% of variance accounted for by the model was again the result of shared variance between two or more of the independent variables. Responsiveness (.07), nonverbal

immediacy (.04), and verbal receptivity (.01) contributed a total of only 12% of unique variance to the total 37% of explained variance.

The remaining 25% of variance was accounted for by variance common to two or more of the predictor variables. Responsiveness and verbal receptivity accounted for .05 of this variance while the shared variance between nonverbal immediacy and verbal receptivity accounted for an additional .04 of the variance. Nonverbal immediacy and responsiveness contributed only an additional .01 to the variance. Nonverbal immediacy, responsiveness, and verbal receptivity contributed .15.

Based upon these analyses of colinearity, it would appear that there is a substantial degree of colinearity among these variables. Only a small portion of the variance in any of the nine learning measures was attributable to any one of the independent variables uniquely.

Research question two set out to explore the possibility that nonverbal immediacy, responsiveness, and verbal receptivity were components of a single construct. Initial analysis of this research question involved ordinary least squares (OSL) confirmatory factor analysis. Using the uncorrected correlation matrix (see Table 2), the average correlation within the cluster was .59 and the standard coefficient alpha was .81. No significant deviation from the mean was noted in the Spearman test for internal consistency. However, some deviation from the mean R was noted in the residual matrix for flatness between nonverbal immediacy and responsiveness (dev $r=-.12$, $p<.01$), nonverbal immediacy and verbal receptivity (dev $r=.07$, $p<.05$), and verbal receptivity and responsiveness (dev $r=.06$, $p<.05$).

Additionally, a confirmatory factor analysis was conducted using the corrected correlation matrix (see Table 2), the average correlation within the cluster was .69 and the standard coefficient alpha was .87. The Spearman test for deviation from mean r noted no significant deviations from expected mean r scores. Some deviation from the mean r was noted in the residual matrix for flatness between nonverbal immediacy and responsiveness (dev $r=-.12$, $p<.01$), nonverbal immediacy and verbal receptivity (dev $r=.08$, $p<.01$), and verbal receptivity and responsiveness (dev $r=.05$, $p<.05$).

To further explore the nature of this relationship exploratory factor analysis was conducted to explore the nature of the interrelationship of the items on these measures. For purposes of contrast and additional analysis, the assertiveness items were included in these analyses.

Two sets of exploratory factor analyses were computed. The first set used a forced two-factor model that included the individual items from the nonverbal immediacy, responsiveness, verbal receptivity, and assertiveness items. All of the nonverbal immediacy and verbal receptivity items loaded on the first factor. All of the responsiveness items except the "gentle" item loaded onto the first factor. While most of the loadings for factor one were .5 or greater, some items did have lower loadings on the first factor (see Table 5). Eight of the ten assertiveness items loaded onto the second factor while the assertiveness items related to "has a strong personality" and "acts like a leader" loaded onto the first factor.

The second set of exploratory factor analyses used a forced three-factor model that included the individual items from the nonverbal immediacy, responsiveness, verbal receptivity, and assertiveness measures. All of the verbal receptivity items and all of the responsiveness items except

the "sympathetic" and "gentle" items loaded onto the first factor. Additionally, all of the nonverbal immediacy items except items one and seven also loaded onto the first factor. The responsiveness item "gentle" and the all of the assertiveness items except "acts like a leader" and "has a strong personality" loaded onto factor two. Factor three was comprised of the nonverbal immediacy item that did not load onto factor one. Again most of the loadings were >.5 with other loadings being weaker.

Discussion

There were two primary objectives of this study, The first was to replicate previous findings that showed a positive relationship between teacher behaviors associated with nonverbal immediacy, responsiveness, and verbal receptivity and student affective, cognitive, and behavioral learning. Hypotheses were tested to meet this objective. The significant positive correlations found in the present study supported the hypotheses as well as provided additional support for previous research findings.

Exploration of the interrelationships among these teacher behaviors was the second goal of the present study. Research question one probed the extent of colinearity between nonverbal immediacy, responsiveness, and verbal receptivity in the prediction of affective and cognitive learning. Evaluation of the colinearity of these predictors was based on regression analyses followed by decomposition of the explained variance.

Based upon these findings, it would appear that the model that incorporates the three variables can be used to explain most of the predictable variance in affective and cognitive learning. However, there was still some additional unique variance contributed by using each of the individual

measures. So while the degree of colinearity was quite substantial, there appeared to also be some unique predictive power that should be considered in evaluating the impact of these variables on affective and cognitive learning.

Research question two set out to explore the possibility that nonverbal immediacy, responsiveness, and verbal receptivity were components of a single construct. The initial analysis related to this research question involved an ordinary least squares confirmatory factor analysis. The average correlation among the three measures within the cluster was .59 and the standard coefficient alpha was .81 using the uncorrected correlation matrix. Thus the conclusion that these measures are highly intercorrelated may be drawn.

Based upon these findings, it would appear that there is a group of communication behaviors that are being represented by three separate communication measures. These behaviors appear to be related to the degree of affiliation perceived by a student for her/his teacher. Consequently, the term Affiliative Communication Behaviors (ACB) is suggested to include all these behaviors.

The Affiliative Communication Behaviors (ACB) construct includes both verbal and nonverbal messages within the communication (although vermal messages were not studied here). These behaviors may serve to decrease the perceived physical and/or psychological distance between the source and the receiver thus promoting more positive affect and affinity. This positive affect can then lead to increased motivation and thus enhance both affective and cognitive learning within the instructional context.

Future research needs to explore the exact nature of these affiliative behaviors that are influencing perceptions of nonverbal immediacy, responsiveness, and verbal receptivity. This

research would provide a much clearer picture of the association between these variables in terms of the construct of which they appear to be a part.

While the present study focused upon the instructional context, it would appear that the Affiliative Communication Behaviors construct could also provide useful insight into the communication behaviors of individuals in other contexts, particularly interpersonal and organizational communication contexts. Future research should look specifically at the affiliative communication behaviors that individuals engage in during interpersonal interactions with peers and friends. Of additional interest would be the affiliative behaviors engaged in between superiors and subordinates within organizations.

Additionally, future research needs to focus on the verbal immediacy measure. In the present study, it was found to be unstable in analysis due to what may have been a response bias within the measure itself. Validity of the measure is of great concern. While the construct of verbal immediacy may be an important concept, it is not clear just how valid the present measure truly is.

The measure of verbal immediacy needs to be strengthened and its validity confirmed before its role in the Affiliative Communication Behavior construct may be accurately gauged. If the types of items included on the present measure of verbal immediacy are representative of verbally immediate behaviors, it could be that verbal immediacy could also be closely associated with Affiliative Communication Behaviors. However, until further research is done regarding the measure of verbal immediacy, no valid judgements may be made regarding its association with the ACB.

The current research serves to provide a greater understanding of the relationships among communication behaviors which teachers engage in within the classroom and student learning. Clearly, the communicative behaviors of teachers are significantly and highly related to student learning. Teachers who are perceived as more nonverbally immediate, responsive, and verbally receptive because of their communication behaviors positively influence student affective and cognitive learning.

It seems that teachers at all levels would benefit from better understanding of how their communication behaviors affect student learning in their classrooms. Through the development of such an understanding teachers will be better equipped to evaluate their communication within the classroom and assess the effects of that communication.

In teaching teachers about these Affiliative Communication Behaviors, two levels of instruction would be needed. First is the building of awareness of what Affiliative Communication Behaviors are and what their impact is within the instructional context. Once the awareness exists, the actual behaviors may be taught. Just as with any other behavior, the actual use of Affiliative Communication Behaviors could be taught to communicators.

In this way, instruction may be enhanced as teachers become more aware of their communication and make decisions regarding communication based upon understanding rather than unconscious modeling, blind experimentation, or habit. Both students and teachers would be the beneficiaries of such an improvement in classroom communication.

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Footnotes

[1]The affective learning measures utilized were attitude about the content of the course (good-bad, worthless-valuable, fair-unfair, positive negative), attitude about the instructor of the course (good-bad, worthless-valuable, fair-unfair, positive negative), attitude about the behaviors recommended in the course (good-bad, worthless-valuable, fair-unfair, positive negative), likelihood of taking a similar course given the opportunity (likely-unlikely, impossible-possible, probable-improbable, would-would not), likelihood of taking another course with the instructor given the opportunity (likely-unlikely, impossible-possible, probable-improbable, would-would not), and likelihood of atcually engaging in the behaviors recommended in the course (likely-unlikely, impossible-possible, probable-improbable, would-would not).

Table 1. Correlations among variables.

	NVIMMED	ASSERT	RESPON	VERBREC
AC	.41*	.21*	.41*	.44*
AI	.56*	.23*	.65*	.66*
AB	.42*	.20*	.43*	.49*
RC	.33*	.17*	.29*	.34*
RI	.57*	.25*	.54*	.59*
EB	.35*	.19*	.35*	.37*
AFFECT	.53*	.26*	.55*	.58*
LEARN	.45*	.24*	.47*	.48*
LRNLOSS	-.49*	-.20*	-.53*	-.51*

* significant at $p<.0001$

AC = Attitude toward the course
AI = Attitude toward the instructor
AB = Attitude toward behaviors recommended in course
RC = Likelihood of taking a similar course if possible
RI = Likelihood of taking another course with instructor
EB = Likelihood of engaging in behaviors recommended in course
AFFECT = Total affective learning
LEARN = Reported learning in course
LRNLOSS = Reported learning loss in course

Table 2. Correlations Between Independent Variables.

Uncorrected

	NVIMMED	RESPON	VERBREC
NVIMMED	1.0	.47*	.66*
RESPON		1.0	.65*
VERBREC			1.0

* significant at p<.0001

Corrected for attenuation

	NVIMMED	RESPON	VERBREC
NVIMMED	1.0	.57*	.77*
RESPON		1.0	.74*
VERBREC			1.0

* significant at p<.0001

Table 3. Decomposition of variance for affective learning variables.

	AC	AI	AB	RC	RI	EB
Unique to Nonverbal Immediacy (NI)	.02	.02	.02	.02	.05	.01
Unique to Responsiveness (R)	.02	.07	.02	.11	.03	.01
Unique to Verbal Receptivity (VR)	.01	.04	.04	.01	.03	.00
Common to NI and R	.01	.01	.00	.01	.02	.01
Common to NI and VR	.04	.06	.04	.03	.06	.04
Common to R and VR	.05	.13	.05	.01	.06	.05
Common to NI, R, and VR	.09	.22	.11	.06	.19	.06
Total	.24	.54	.26	.14	.44	.18

AC=Attitude toward course
AI=Attitude toward instructor
AB=Attitdue toward recommended behaviors
RC=Likelihood of taking a similar course
RI=Likelihood of taking another course with instructor
EB=Likelihood of engaging in behaviors

Table 4. Decomposition of variance in learning.

	Total Affective	Reported Learning	Learning Loss
Unique to Nonverbal Immediacy (NI)	.03	.03	.04
Unique to Responsiveness (R)	.04	.04	.07
Unique to Verbal Receptivity (VR)	.02	.01	.01
Common to NI and R	.01	.00	.01
Common to NI and VR	.06	.04	.04
Common to R and VR	.16	.04	.05
Common to NI, R, and VR	.10	.14	.15
Totals	.42	.30	.37

Table 5. Rotated and Unrotated Factor Analysis

	UNROTATED		ROTATED	
ITEM	FACTOR1	FACTOR2	FACTOR1	FACTOR2
N1	.13	.08	.10	.12
N2	.43	.21	.34	.34
N3	.61	.20	.52	.38
N4	.49	.24	.39	.38
N5	.65	-.03	.63	.18
N6	.53	.18	.45	.34
N7	.21	.05	.18	.11
N8	.43	.15	.36	.28
N10	.36	.13	.30	.24
N11	.19	.08	.16	.13
N12	.65	.14	.57	.34
N13	.49	-.03	.47	.12
R1	.68	-.07	.67	.15
R2	.72	-.12	.72	.11
R3	.55	-.34	.63	-.15
R4	.60	-.38	.69	-.17
R5	.65	-.31	.71	-.09
R6	.58	-.22	.62	-.02
R7	.48	-.52	.62	-.35
R8	.61	-.39	.70	-.18
R9	.52	-.48	.64	-.29
R10	.74	-.16	.75	.08
A1	.12	.36	.00	.38
A2	.34	.37	.20	.46
A3	-.02	.55	-.19	.51
A4	.49	.47	.31	.60
A5	.30	.53	.12	.59
A6	.05	.67	-.16	.65
A7	.34	.45	.18	.54
A8	.49	.48	.32	.61
A9	.17	.70	-.06	.72
A10	.17	.58	-.02	.60
VR1	.70	-.04	.67	.18
VR2	.54	.17	.46	.33
VR3	.65	-.07	.64	.14
VR4	.52	-.03	.50	.14
VR5	.64	-.06	.63	.14
VR6	.67	-.05	.65	.16
VR7	.53	-.00	.51	.17
VR8	.56	.10	.50	.27
VR9	.60	-.12	.61	.07
VR10	.30	.05	.27	.15
VR11	.58	.03	.54	.21
VR12	.52	.00	.49	.16
VR13	.60	.04	.56	.22
VR14	.65	.03	.60	.23
VR15	.64	-.16	.66	.05
VR16	.63	-.08	.63	.12
VR17	.63	-.11	.63	.10
VR18	.60	.05	.55	.23
VR19	.65	.01	.62	.21
VR20	.59	-.14	.52	.32
VR21	.48	.06	.44	.21

N=Nonverbal
R= Responsiveness
A = Assertiveness
VR = Vebal Receptivity